

BARKAN (A.)



Expert Medical Report on
One Hundred and Fifty-eight Inmates
of the
Institution for the Deaf and Dumb
and the Blind
at Berkeley, Cal.

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EXPERT MEDICAL REPORT ON
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At the commencement of the year 1884, the Board of Directors of the Institution for the Deaf and Dumb and Blind, at Berkeley, on motion of Dr. Woolsey, of Oakland, then one of their number, appointed an expert commission, consisting of Dr. W. F. Smith and myself, for the purpose of examining all the inmates then living in the institution; also all new applicants, as to their fitness for admission. The commission commenced work at Berkeley on the 23d of March, 1884. After the first visit to the institution, Dr. Smith resigned and left the State. I continued and concluded the work, and in January, 1885, submitted my first report to the Board of Directors. It embraced the examination of 158 inmates at the institution and of 18 applicants at my office.

The examination at the institution took place, as a rule, on Sundays. It extended over several months of that year, and was conducted with the assistance of Dr. Woolsey, in the presence of the Principal, Mr. Wilkinson, who devoted much attention to the matter. The work was full of scientific interest to the specialist, although



not an easy one to accomplish, as from the nature of the examination, an especial difficulty arose in having to converse with the patients by medium of a deaf and dumb interpreter. The work also was more laborious owing to its novelty; it would have been still more arduous had not Dr. Woolsey accompanied me each visit and rendered me great help, adding his knowledge as general practitioner, to the work of the specialist. We warmed up more and more as we progressed, and our methods of examination improved. It soon however became evident that an exhaustive insight into each patient's case could not take place in the time we had at our disposal. I was therefore justified in stating in my first report to the Directors that the work had only just commenced, and that with the records now in hand, added to those made by any future expert commission from thorough examinations of new applicants, material would be gathered together which could not fail to prove useful and interesting. The hopes, however, expressed by me were doomed to be frustrated, for shortly afterwards the Board of Directors *abolished* the expert commission, and with it disappeared the rule requiring every new candidate for admission to be examined by a specialist. The work undertaken had extended over more than one year; it brought me into contact with a large number of sufferers, and was replete with scientific suggestions and enquiries, not to be dismissed from me with the dismissal as expert, which I received—a dismissal quite unexpected, as was likewise my appointment. The material thus accrued from these investigations served me well in my lectures on the "*Blind*," and "*The Prevention of Blindness*," which formed two in the series of the popular Lane lectures; likewise, in the corner of my office stood the voluminous record book containing the results of my labor.

When the President of this Society, as well as the chairman of the special committee on ophthalmology courteously invited me to contribute a paper to this year's

meeting, I remembered those records and concluded that a report of all the cases would prove scientifically interesting and practically useful.

With the excellent aid of Mr. Cope, my clinical assistant, we, after looking critically through each case recorded, grouped them together with all the data referring to each, and transferred them *seriatim* to the record sheets I present before you, under 28 different Tables for the deaf and dumb and eight different Tables for the blind. As an example of the plan, I will read you the headings of one of these Tables concerning the *deaf and dumb*, and of one concerning the *blind* from the large sheet. From these records a number of smaller Tables have been compiled, each one treating the material from a different scientific or practical standpoint. To this I shall again refer.

Table I contains 122 cases of deafmuteism, according to *causes*. In regard to this Table I agree with St. John Roosa, whose exhaustive examination of 147 deaf mutes, as published in his text book, has been very suggestive and a great help to me in the systemization of my work, in his remark "that it is as reliable as any that it seems possible to get from any institution, and that as far as the statements as to scarlet fever, measles, cerebro-spinal meningitis, mumps and syphilis (and I might add brain-fever), are concerned, the statement may be considered trustworthy. In my Table I likewise coincide in his opinion that in the domain of congenital deafness, or such assigned causes as, falls on the head, fits, sickness, there exists great uncertainty as to the actual cause. A glance, however, at the percentage scale made from this Table may prove instructive. It shows that (using round numbers) in 36 per cent the trouble was congenital. As those cases of deaf muteism, where the cause is stated as "unknown" amount to 13 per cent., they may with great probability be considered as belonging to the congenital group, which would give a percentage of 49;

scarlatina, as cause for deafness shows $11\frac{1}{2}$ per cent.; *spinal* and *cerebral meningitis*, if together, to about the same; *brain fever*, 8 per cent.; *measles*, *typhoid fever*, $3\frac{1}{2}$ per cent. each. The list is filled out with *whooping-cough*, *hydro-cephalus*, *mumps*, *malaria*, *diphtheria*, *intermittent fever*, *simple fever*, *fits*, etc. So far as the congenital cases are concerned our Tables stand midway between those of Prof. Roosa, who had 33 per cent. in his examination, and Hartmann, who had 65 per cent. Had the expert commission not been discontinued, the cause of each, or of most of these cases, could have been ascertained in the future, for, as a rule the youthful candidates for admission are accompanied by anxious parents or guardians, from whom by close questioning, or from information obtained from the physician who treated the children at the time of their illness, an exact result might have been obtained.

Table II enables us to ascertain how many of the 122 deaf mutes examined could hear the sound of the tuning fork of C² which I used, either by aerial, or by bone conduction, perceiving the sound of the fork when applied over the mastoid. Only after much trouble by tests and counter-tests and discussions with the Principal, Mr. Wilkinson, whose opinion in this particular point was entitled to great weight, was it possible to conclude that most of the statements made to us by the deaf and dumb pupils, although not made intentionally to mislead us, were entirely unreliable, for the most part positively negative. Thus we found that 97 pupils had neither aerial nor bone conduction on either side. This result is greatly at variance with the one found by Rossi in Rome and Roosa in New York.

The remark made by Prof. Roosa* in case 113 of his records, reads thus: "The tuning fork on mastoid seems to make very little impression as shown in his face. Says it feels the same when the tuning fork is placed on his hand as when placed on mastoid." *But as usual when one says he feels it, it is recorded as bone conduction.* Evi-

* Treatise on Diseases of the Ear. 1885.

dently from this observation we must conclude that Roosa meant to convey *his* standard for bone conduction, and thus it is explained why he found bone conduction present on either side in 74 cases out of 118. With all due respect for so good an authority, I must beg to differ from him in the interpretation of this symptom, for amongst the pupils I examined there was one, 22 years of age, exceedingly bright, very well educated (case 104) who was most emphatic in asserting that the vibrations of the tuning fork whether applied to hand or bones of the head, were felt as mechanical vibrations on hand and head alike. Judging from this and other cases, we concluded that *feeling* vibrations is not *hearing* them, and that it is better, if err we must, to err on the negative side, so the Table was made accordingly. We made no examinations with the speaking tube.

Each table, from III up to XXIII contains the records of all cases belonging to the group which includes conditions of the drum head, tuning fork test, and age of patients at the time of becoming deaf.

Table XXIV deserves more than a passing notice ; it shows the mental peculiarities of the 122 deaf and dumb, out of which number 7 were very bright, 47 bright, 57 average, 10 dull and 1 weak-minded; thus 97 per cent. possessed average mental qualities, a fact that appeared to us rather surprising, but one much to be rejoiced in, for instead of finding stupid, poorly-nourished, ill-tempered children, they were as healthy looking, well-behaved and merry a lot as any fond parent might like to see in his own family (save number and deafmuteism).

In Table XXV, showing family history and consanguinity in the 122 cases, some important facts are brought forward respecting hereditary development of deafmuteism. In 37 per cent., different members of the same family were either *totally* deaf and dumb, *partly* deaf, or insane. Direct heredity could be demonstrated in only 2 cases, where the parents are stated to have

been partially deaf; in case 46, the patient's brother and sister were partially deaf—semi-mutes, deafness acquired. In case 23 the father was partially deaf, the boy resembled his father; in neither of those two cases did consanguinity of parents exist, nor were either of them deaf or dumb. Case 116 is an important one, showing not only the great force of an hereditary tendency acting in a direct line through *three* generations, but also its development at the same age in each case. This case, that of a boy 15 years of age when examined, could hear with the right ear the loudest voice, but was entirely deaf with the left ear. He had questionable air and bone conduction, and normal drumhead; his grandfather became deaf and dumb at 6 years of age from scarlatina; he had two daughters who became deaf and dumb at 6 years of age; one of them was this boy's mother; *he* became deaf and dumb gradually in the same manner.

In 30 cases (24 per cent.) either a brother or sister of the case examined was a deaf mute, sisters twice as often as brothers. In case No. 17 there was a sister and nephew deaf and dumb, one aunt insane; in case No. 18 two maternal aunts and one uncle were deaf; in case No. 19, the brother, younger sister and deceased sister were deaf and dumb; case No. 40 had a deaf sister, a congenital deaf mute brother and a deaf mute cousin. In case No. 29 there are 7 children in the family, 5 of whom are deaf and dumb. Consanguinity from first cousins downward showed itself in 9 cases, or as the percentage of relationship in marriage is according to Hartman in Germany and France, 1—2. (I have no statistics on this point for the United States.) Our figures appear to correspond with that author's opinion, that marriages amongst relatives favor the development of deaf muteism. I may be permitted to cite an interesting instance of the influence of consanguineous marriages, mentioned by Hartman, in his excellent treatise,

of a deaf and dumb child in one of the Berlin institutions, who had five deaf and dumb brothers and sisters, without a single case of deaf muteism having occurred in the previous generation; but it was ascertained that parents as well as grandparents and great grandparents had been cousins; *three* times the damaging cause had to act in order to cause deaf mutism in this terrible manner.

From the very first we were struck by the comparatively great number of deaf and dumb pupils showing what is generally termed Hutchinson's teeth, that is a set of permanent teeth peculiar for their smallness, bad color and vertically notched edges of the upper central incisors, often accompanied by a sunken bridge of the nose, prominent frontal sinuses and a peculiarly flabby skin. *No less than 23 per cent. of the cases examined presented more or less characteristically this group of symptoms, from which it would appear that inherited syphilis played a most important part in the ætiology of deafmuteism.* In the works at my disposal I have found no mention of this, and should be glad to call the attention of investigators to this point.

Catarrh of eustachian tubes, granular and simple pharyngitis and hypertrophied tonsils were found in 20 per cent. of patients examined.

Out of the total of 122, 73 were males and 49 were females—of whom 1 female was a Jewess and 6 males were Jews.

Out of the 36 cases of double blindness, there were 17 males and 19 females—1 male was a Jew.

Finally, Table XXVII shows the result that out of the 122 cases examined, 99, or 81 per cent. of all were incurable. In 18 cases, or 15 per cent., it seems *possible* that complete deaf muteism might have been prevented—we count in here 14 cases of scarlatina and 4 cases of measles. Although in these general affections purulent otitis media is of a severe type, there is no denying that proper attention is not always paid by the general practitioner to the

ear complication often arising, the necessary treatment is in many cases greatly neglected, even looked upon as undesirable by many physicians and parents.

Gradually, however, a better understanding of the importance of these cases and of their efficient speedy treatment is beginning to dawn upon the profession, and I feel sure that time will greatly lessen the number of deaf and dumb incurable from these causes.

In concluding this report I cannot do better than cite Prof. Roosa's eloquent appeal on behalf of our unfortunate fellow creatures in the following words: "There is certainly no peculiar treatment necessary for the deafness of young children, which renders them mute because they cannot learn to imitate speech. I cannot abstain from alluding to the lingering remains of the barbarism of the past centuries, which neglects the care of the ulcerated membrana tympani, and the swollen throats of the poor mutes who suffer from chronic suppuration and catarrh of the middle ear. Although the educational wants of deaf mutes are now attended to, their medical treatment is sadly neglected in the asylums and schools of our country as well as in their homes. It was not until the 17th century that the deaf mutes were thought worthy of an education. The 20th century will probably arrive before every school or asylum for these unfortunates has in attendance a physician who fully understands how to examine and treat a diseased ear. These schools are not hospitals, it is true, yet there is always in them a large proportion of young patients still suffering from a suppurative disease, which although it has fully destroyed the *hearing*, is not stayed, but often goes on and destroys *life*."

In the report on 36 cases of double blindness at the Institution for the Deaf, Dumb and Blind in Berkeley, Table I gives the causes as stated by parents or guardians. Nine cases, or 25 per cent., of purulent ophthalmia of the new born head the list; then follow blind-

ness from brain fever and unknown causes, each 11 per cent.; granular conjunctivitis 8 per cent.; spinal meningitis, malaria, smallpox, rheumatism, syphilis, injuries, poison oak, and megalophthalmus, one case each. What has been said concerning the unreliability of the statements made by parents or guardians as to causes of deafness, applies with equal truth to this table. Expert examination of each new case is required to arrive at any correct knowledge. It is more than likely that some of the cases classed under "congenital" or "cause unknown" belong to ophthalmia neonatorum; likewise, that injuries to the eye have caused more than one case of blindness, not only by direct traumatism, but by sympathetic affection of the other eye. The case of poison oak in all probability was one of acute trachoma or purulent ophthalmia.

Table II shows the parts of the eye affected, and Table III the age and sex in 36 cases of double blindness, and require no particular remarks.

Table IV is of importance, although consisting of only three lines. It points out that of the 36 cases examined, 20 or 55 per cent. were unavoidably and permanently blind. In nine cases, or 25 per cent., blindness might have been prevented, and in seven cases, or 19 per cent., sight might have been improved. The proper interpretation of these figures, and a thorough analysis of the cases with the deduction to be drawn from them would occupy more space and time than can be allowed to the present report, though it might be discussed at some later time at greater length; there is one fact, however, which strikes us most forcibly, and that is that in the nine cases of purulent ophthalmia, blindness could have been prevented with certainty, yes, with *certainty*, for these cases, however severe, are nearly always curable, with no, or only a slight detriment to the eye, if the treatment is *prompt* and of the *right kind*. A thorough and methodical cleansing of the affected eye, by removal of the infectious

purulent secretion, will in itself accomplish much; combined with incessant application of ice cold compresses, and use of a 2 to 3 per cent. solution of nitrate of silver applied once a day to the well everted upper and lower lids, will I believe in most cases insure complete recovery; probably my confreres will bear me out in this assertion that failure is a great exception.

During the last few years a great reform in the prophylactic treatment of this disease has taken place in many of the European lying-in asylums. The process generally adopted is known as Crede's method and is the simplest. It consists of a thorough cleansing of the eyes with clean water, sponge or rag, immediately after ligature of the umbilical cord, and the instillation of a drop of 2 per cent. solution of nitrate of silver into each eye, the eyes then can be left untouched. By following this method the percentage of cases of purulent ophthalmia has diminished to such an extent, that a case of ophthalmia neonatorum in these institutions is of very rare occurrence.

There can be no excuse for neglecting this perfectly harmless preventive measure in our public institutions, and I think the time is not far distant when all conscientious obstetricians in their private practice will make a vaginal examination previous to confinement, and whenever leucorrhœic secretions are present will not be satisfied with a simple cleansing of the genital parts, but will also make use of Crede's application. Our blind asylums will then not contain 25 per cent. of unfortunates who might have enjoyed the blessings of sight, and medicine will be enabled to boast of having conferred another boon upon humanity, one worthy to be mentioned with the introduction of vaccination, which reduced the number of blind from smallpox, in France, from 35 per cent. to 7 per cent.; in Germany where vaccination is compulsory, from 35 per cent to 2 per cent.

Out of seven cases mentioned, case No. 2 and case No. 3 particularly claim attention; the latter is one of a lad

18 years of age, who had been in the institution for several years; he had lamellar cataract of both eyes, and could count fingers at two feet. On my recommendation he was given into my care for treatment. I removed successfully the cataract by needling, and cleared the pupils from the obstacles to the passage of light. It was only after this had been accomplished that the ophthalmoscope revealed an atrophic condition of the optic nerves and blood vessels. Nevertheless sight was improved through removal of cataracts; the boy could count fingers at from 4 to 5 feet, could with the aid of cataract glasses, of course, tell the time of day by his watch, and was, I believe, able to guide himself about—a power not to be underrated. It is certain that the boy should never have been admitted into an institution for the incurably blind, at any rate not without a previous operation. Valuable time was lost, and although it is just possible that the atrophic condition of the optic nerves was also congenital, it is more probable that amblyopia set in owing to the non-use of the eyes, and that an earlier operation might, through use of the eyes, have materially improved the sight. The other case, No. 2, is a parallel one—that of a boy seven years of age, who was first refused admission, and then admitted under the new rule: he had congenital cataract of both eyes, and could see motions of the hand. On the urgent solicitation of his mother, poor in every sense of the word, and of Dr. Woolsey, the boy was entrusted to me as expert commissioner, the cataracts were removed by absorption, the pupils cleared and his sight improved, but I am unable to state to what extent, for with the exception of a grateful letter from the child's mother, sometime later, I heard nothing more about him. To substantiate my opinion that the sight of these two patients might have been improved much more had they been operated on earlier, and in consideration of the great importance of the subject, I will cite one authority, and one only, but it is the

voice more entitled to be heard than any other, a voice which up to a few months ago, and for the last forty years has been sweeter than music to thousands whose sight he has restored, who performed more than 5,000 cataract operations, with the wonderfully small loss of only 2 to 3 per cent. I refer to the gentle heart, keen eye and sure hand of the late lamented Prof. von Arlt, of Vienna. In an article, "Hints on Cataract Extraction," the last one, I think he ever wrote, in *Gracfe's Archives of Ophthalmology* (Vol. XXXI., Section III, page 5), he remarks: "What influence does the long existence of a cataract exert upon the eye, and more especially on the functional power of the retina? If a cataract first develops itself in boyhood or later, as for instance after an injury, when there exists an hereditary tendency, or in manhood, it may continue over twenty years or more without lessening the favorable prognosis as regards the retina. Not so with those cataracts which are either congenital or exist from the first years of life. These interfere considerably with the function of the retina, and disable those afflicted from learning to read; they develop a condition of torpor of the retina which may be designated as *amblyopia exanopsia*, or weak-sightedness from disuse. This torpid condition of the retina increases as the cataract lasts on, but does not lead to amaurosis. We know that the greater number of such cataract patients, operated upon only at the time of puberty or later, notwithstanding the equally favorable mechanical success of the operation, do not regain as good vision as those who have been operated on in boyhood or childhood."

If it has been ascertained that an operation for cataract is imperative, it should be performed when the children are quite young; it is even best when they are still nursing. But who, I ask, is to ascertain this? Who is to prevent those children from being admitted into a blind asylum, without even a chance for them to regain their sight by an operation which is often successful and nearly

always harmless? Who is to treat the many affections of both eyes and ears, supervening on the development of blindness or deaf muteism, which these poor children take with them into the asylum, and often never get rid of? Most emphatically an expert would and should do all this, and examine each candidate for admission, thus ascertaining whether the case is curable or improvable, and with him should rest the medical supervision of their eyes, ears, throats. Let us hope that when the twentieth century comes, every school, every asylum will have attached to it a properly qualified medical expert. I say this with a feeling of deepest sympathy for the afflicted, innocent children, and with the desire that help may be extended to them, even in the asylum for the blind. Possibly then, a greater number than at present would be enabled to appreciate Schiller's beautiful words:

“O the eyes' light, of all the gifts of Heaven
The dearest, best! From light all beings live,
Each fair created thing—the very plants—
Turn with a joyful transport to the light.”

TABLE I.

One hundred and twenty-two cases of Deaf Muteism.
(Cause stated by parent or guardian).

Congenital.....	44
Scarlatina.....	14
Spinal Meningitis.....	10
Brain Fever.....	10
Cause Unknown.....	9
" " probably congenital.....	8
Cerebro-spinal Meningitis.....	4
Typhoid Fever.....	4
Measles.....	4
Fall on head.....	3
Fever.....	2
Whooping-cough.....	1
Injuries to head.....	1
Mumps.....	1
Hereditary.....	1
Hydrocephalus.....	1
Malaria.....	1
Diphtheria.....	1
Intermittent Fever.....	1
Fits.....	1
Sickness.....	1
	122

TABLE II.

Results of examination with the tuning-fork of one
hundred and twenty-two Deaf Mutes.

There was no aerial or bone conduction on either side in...	97
Bone and aerial conduction on both sides.....	1
Bone and aerial conduction on one side only.....	2
Bone and aerial conduction on one side, no bone conduction on the other.....	1
Aerial conduction on one side, no bone or aerial conduction on the other.....	1
Questionable bone and aerial conduction of both sides.....	12
Questionable aerial conduction, and no bone conduction...	8
	122

TABLE III.

Deafness said to be congenital. Condition of membrana tympani. (44 cases, 88 ears).

Normal color and light spots.....	72
Retracted	10
Dull.....	6
	88

TUNING-FORK TEST.

No aerial or bone conduction.....	70
No bone conduction, questionable aerial conduction	12
Bone conduction, questionable aerial conduction	2
Questionable aerial and bone conduction.....	4
	88

TABLE IV.

Scarlatina being cause of Deafness. Condition of membrana tympani. (14 cases, 28 ears).

Cicatricial.....	10
Perforate and ulcerating.....	4
“ no discharge.....	4
Normal	4
No record.....	2
Absent.....	1
Chalky incrustations.....	1
Retracted	1
Irregular light spot.....	1
	28

TUNING-FORK TEST.

No aerial or bone conduction	18
Aerial conduction.....	3
Bone and aerial conduction.....	2
Bone conduction	1
Questionable aerial and bone conduction.....	4
	28

AGE OF PATIENTS AT TIME OF BECOMING DEAF.

Infancy.....	1
From 2 to 3 years old.....	4
“ 3 to 4 “	3
“ 4 to 5 “	2
“ 5 to 6 “	1
“ 6 to 7 “	1
“ 7 to 8 “	1

TABLE V.

Cause unknown. Condition of membrana tympani.
(9 cases, 18 ears).

Normal	14
Dull and retracted	4
	18

TUNING-FORK TEST.

No aerial or bone conduction	10
Questionable aerial or bone conduction	8
	18
Age, from 1 to 2 years	2
“ “ 2 to 3 “	1
“ not known.....	6

TABLE VI.

Cause unknown; probably congenital. (8 cases, 16 ears). Condition of membrana tympani.

Normal	14
Slightly retracted	2
	16

TUNING-FORK TEST.

No aerial or bone conduction	12
Questionable aerial or bone conduction	4
	16

TABLE VII.

Spinal meningitis cause of Deafness. Condition of membrana tympani. - (10 cases, 20 ears).

Normal	17
Retracted	2
Dull	1
	20

TUNING-FORK TEST.

Neither aerial nor bone conduction.....	20
Age, infancy.....	2
“ from 1 to 2.....	4
“ “ 2 to 3.....	2
“ “ 3 to 4.....	1
“ “ 4 to 7.....	1
	10

TABLE VIII.

Cerebro-spinal meningitis cause of Deafness. Condition of membrana tympani. (4 cases, 8 ears).

Normal 8

TUNING-FORK TEST.

Neither aerial or bone conduction..... 8

Age, infancy..... 1

“ from 1 to 2 2

“ “ 2 to 5 1

TABLE IX.

Brain Fever cause of Deafness. Condition of membrana tympani. (10 cases, 20 ears).

Normal 16

Retracted 4

20

TUNING-FORK TEST.

No aerial or bone conduction 18

Aerial and bone conduction..... 2

20

Age, infancy..... 1

“ from 1 to 2 4

“ “ 2 to 3 3

“ “ 3 to 4 1

“ “ 4 to 7 1

10

TABLE X.

Typhoid Fever cause of Deafness. Condition of membrana tympani. (4 cases, 8 ears).

Normal 4

Retracted 4

8

TUNING-FORK TEST.

No aerial or bone conduction 8

Age, infancy..... 1

“ 2 years 1

“ 4 “ 1

“ not stated 1

TABLE XI.

Measles cause of Deafness. Condition of membrana tympani. (4 cases, 8 ears).

Normal.....	3
Absent	2
Cicatrix.....	1
Perforate and ulcerating.....	1
Retracted	1
	8

TUNING-FORK TEST.

Neither aerial nor bone conduction.....	8
Age, from 1 to 2	2
“ “ 2 to 6	2

TABLE XII.

Fall on head cause of Deafness. Condition of membrana tympani. (3 cases, 6 ears).

Retracted	4
Normal	2
	6

TUNING-FORK TEST.

No aerial or bone conduction.....	6
Age, infancy.....	2
“ 18 months.....	1

TABLE XIII.

Fever cause of Deafness. Condition of membrana tympani. (2 cases, 4 ears).

Normal.....	2
Dull and retracted	2
	4

TUNING-FORK TEST.

Neither aerial nor bone conduction.....	4
Age, 2 years.....	1
“ 5 “	1
	2

TABLE XIV.

Whooping-cough cause of Deafness. Condition of membrana tympani. (1 case, 2 ears).

Normal 2

TUNING-FORK TEST.

Neither aerial nor bone conduction..... 2

Age2 years.

TABLE XV.

Injuries to head cause of Deafness. Condition of membrana tympani. (1 case, 2 ears).

Normal 2

TUNING-FORK TEST.

Neither aerial nor bone conduction..... 2

Age.12½ years.

TABLE XVI.

Mumps cause of Deafness. Condition of membrana tympani. (1 case, 2 ears).

Dull and retracted 2

TUNING-FORK TEST.

Both aerial and bone conduction 2

Age10 years.

TABLE XVII.

Hereditary cause of Deafness. Condition of membrana tympani. (1 case, 2 ears).

Normal..... 2

TUNING-FORK TEST.

Both aerial and bone conduction 1

Neither aerial nor bone conduction..... 1

2

Age5 years.

TABLE XVIII.

Hydrocephalus cause of Deafness. Condition of membrana tympani. (1 case, 2 ears).

Normal 2

TUNING-FORK TEST.

Neither aerial nor bone conduction..... 2

Age 12½ years.

TABLE XIX.

Malaria cause of Deafness. Condition of membrana tympani.

Normal 2

Neither aerial nor bone conduction..... 2

Age.....3 years.

TABLE XX.

Cause of Deafness, Diphtheria. Condition of membrana tympani. (1 case, 2 ears).

Normal 2

Aerial conduction, no bone conduction 2

Age2 years and 4 months.

TABLE XXI.

Intermittent Fever cause of Deafness. Condition of membrana tympani. (1 case, 2 ears).

Normal..... 2

TUNING-FORK TEST.

Aerial conduction, no bone conduction..... 2

Age20 months.

TABLE XXII.

Fits cause of Deafness. Condition of membrana tympani. (1 case, 2 ears).

Opaque and retracted 2

TUNING-FORK TEST.

Neither aerial nor bone conduction..... 2

AgeInfancy.

TABLE XXIII.

Sickness said to be cause of Deafness. Condition of membrana tympani. (1 case, 2 ears).

Normal..... 2

TUNING-FORK TEST.

Neither aerial nor bone conduction..... 2

Age 22 months.

TABLE XXIV.

Showing mental peculiarities in one hundred and twenty-two Deaf Mutes.

Very bright..... 7

Bright..... 47

Average 57

Dull 10

Weak-minded 1

122

TABLE XXV.

Showing (a) family history and (b) consanguinity in one hundred and twenty-two Deaf Mutes.

(a)—FAMILY HISTORY.

Paternal grandfather deaf and dumb 1

Maternal grandmother deaf and dumb 1

Parents partially deaf 2

Sister deaf and dumb.....20

Brother deaf and dumb10

Sister weak-minded..... 1

Uncle deaf and dumb 2

Paternal aunt deaf and dumb..... 1

Maternal aunt deaf and dumb..... 2

Uncle insane 1

Cousin deaf and dumb 3

Nephew deaf and dumb..... 1

45

(See foot-note Case 115).

First cousins..... 2

Second " 4

Third " 1

Cousins..... 1

Grand parents were cousins 1

9

TABLE XXVI.

Showing constitutional tendencies in one hundred and twenty-two Deaf Mutes.

Hutchinson's teeth.....	23
Prominent frontal eminences and syphilitic nose.....	6

23 = 18.85 per cent.

6 = 4.91 per cent.

23.76 per cent.

TABLE XXVII.

Race peculiarities.

Christians.....	115 = 94.26 per cent.
Jews.....	7 = 5.73 per cent.

TABLE XXVIII.

Showing those permanently Deaf, those that might have been prevented, and those that could be improved in one hundred and twenty-two Deaf Mutes.

Permanently deaf	99
Might have been prevented.....	19
Improvable	4

122

Table No. 28—Graphic Representation of ONE HUNDRED AND TWENTY-TWO CASES OF DEAF MUTEISM arranged according to causes.

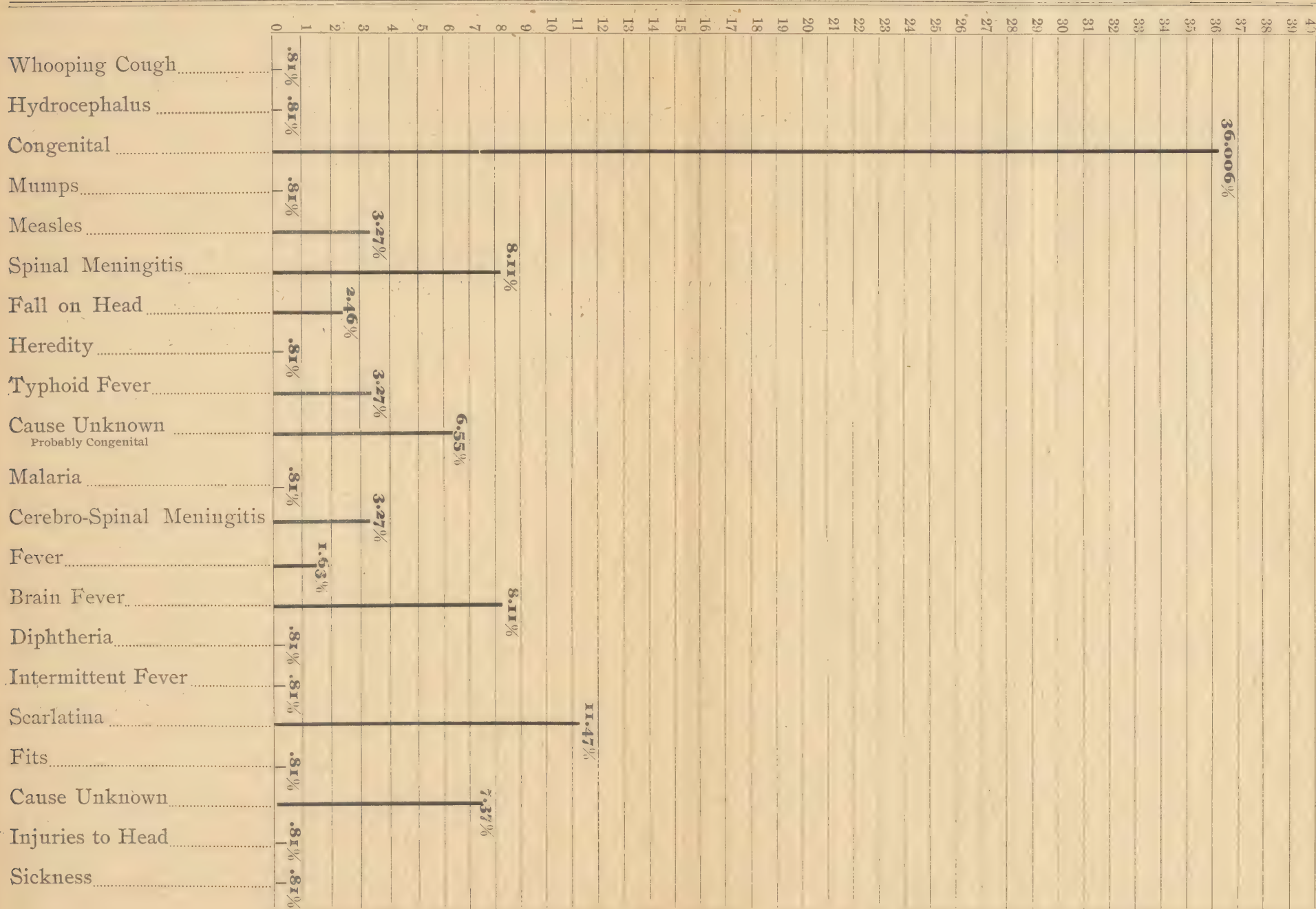


TABLE I.

Thirty-six cases of Double Blindness. (Cause stated by parents or guardians).

Ophthalmia Neonatorum.....	9	Malarial Fever.....	1
Congenital	8	Small Pox.....	1
Cause Unknown	4	Rheumatism	1
Brain Fever	4	Syphilis	1
Granular Conjunctivitis	3	Poison Oak	1
Megalophthalmus.....	1	Injury to Eye.....	1
Spinal Meningitis	1		

TABLE II.

Showing parts of the eye affected in thirty-six cases of Double Blindness. (36 cases, 72 eyes).

Cornea	24	Sclerotic	2
Optic Nerve.....	14	Retina	1
Eyeball	16	Iris	1
Lens	10		—
Choroid	4		72

TABLE III.

Showing cause, age, and sex in thirty-six cases of Double Blindness.

Congenital	8	Granular Conjunctivitis	3
Male	4	Male	2
Female.....	4	Female.....	1
Ophthalmia Neonatorum	9	Age from 3 to 4	1
At Birth, Male.....	5	" " 4 to 6	1
" Female	4	" " 6 to 10	1
Cause Unknown	4	Spinal Meningitis	1
Male	2	Male, 6 years	1
Female.....	2	Malaria.....	1
Age from 1 to 2 years.....	1	Female, 7 years.....	1
" " 4 to 5 "	1	Small Pox.....	1
" " 5 to 6 "	1	Female, 2 years.....	1
" not given.....	1	Rheumatism	1
Brain Fever.....	4	Female, age not known	1
Male	2	Syphilis.....	1
Female.....	2	At Birth, Female	1
Age from 4 to 5	1	Poison Oak	1
" " 5 to 6	2	Male, 8 years	1
" " 6 to 13	1	Injury to eye	1
		Male, 8 years	1
		Megalophthalmus-congenitus.....	1
		Male	1

TABLE IV.

Showing family history and consanguinity in thirty-six cases of Double Blindness.

Father and Sister Insane	1	Third Cousins.....	1
Sister Blind	2	19.44 per cent.	
Brother Deaf and Dumb.....	2	Race, Jew.....	1
Sister and Brother Paralyzed.....	1		

TABLE V.

Showing constitutional characteristics in thirty-six cases of Double Blindness.

Hereditary syphilis	1
Hutchinson's teeth and syphilitic forehead....	5
16.66 per cent.	

TABLE VI.

Showing mental peculiarities in thirty-six cases of Double Blindness.

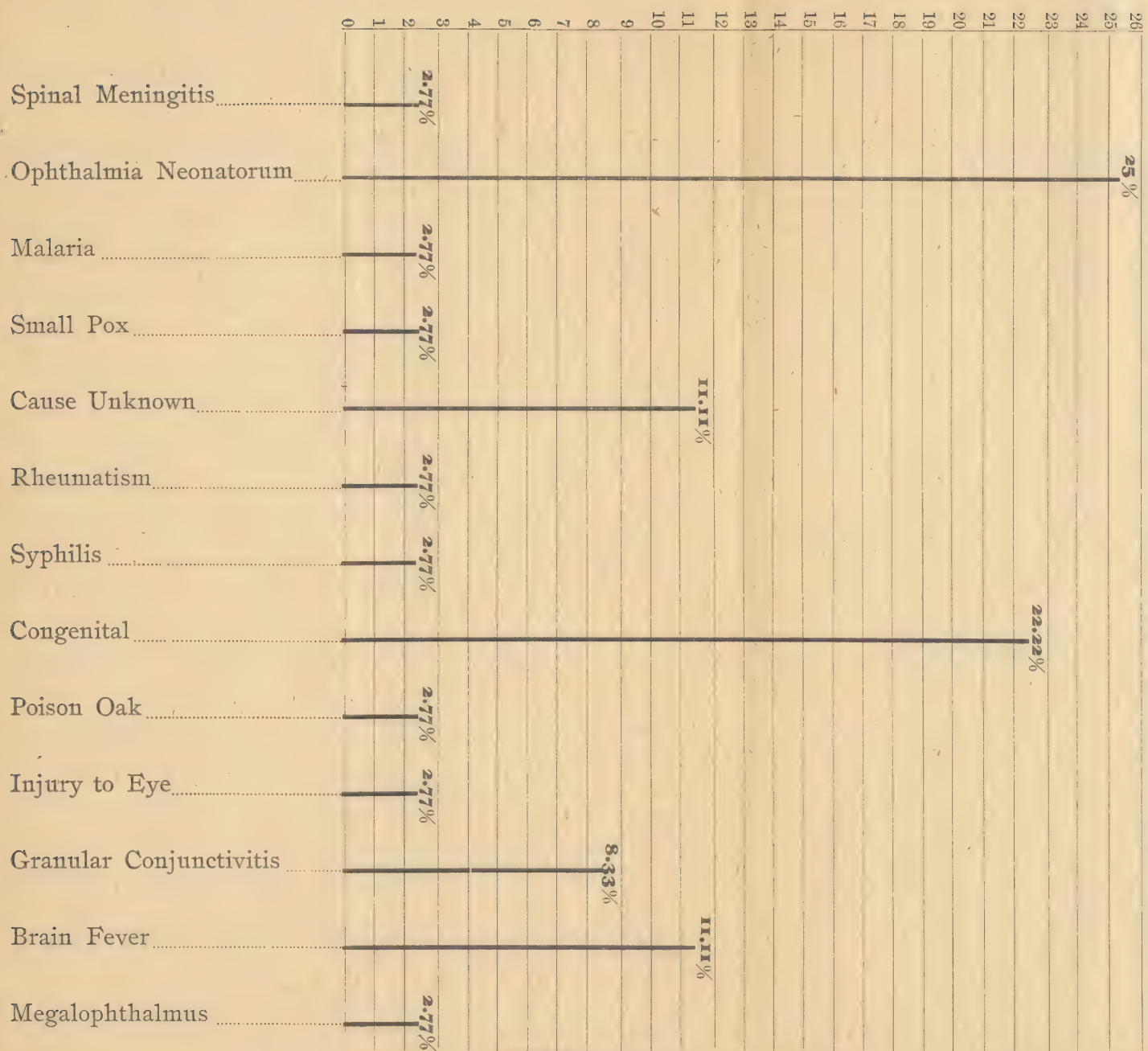
Bright	6
Average	27
Dull	3

TABLE VII.

Showing those permanently blind, those that might have been prevented, and those that may be improved, in thirty-six cases of Double Blindness.

Permanently blind	20=55.55 per cent.
Preventable.....	9=25.00 per cent.
Improvable	7=19.44 per cent.

Table No. 8—Graphic representation of THIRTY-SIX CASES OF DOUBLE BLINDNESS arranged according to causes.



122 CASES OF DEAFMUTEISM

EXAMINED AT THE

INSTITUTION FOR THE DEAF AND DUMB, AND THE BLIND

AT

BERKELEY, CAL.

1884

BY A. BARKAN, M. D.

No.	Age, Sex, or Race.	Cause stated by parents or guardians, and age at which they say deafness appeared.	Amount of Hearing.	Air Conduction.	Bone Conduction.	Condition of Membrana Tympani.	Is the Case Curable?	Was the Present Condition Present from Birth?	Family History and Consanguinity.	Remarks.
1	143 N	10 m Jew	Congenital	None	None	Normal	No	No	Grand parents were cousins	Hutchinson's teeth and prominent frontal sinuses
2	66	11 m	Congenital	None	None	Dull and retracted	No	No	Has an older sister who is a deaf mute	—
3	67	9 m Jew	Congenital	None	None	Normal	No	No	Brother and cousin deaf mutes; brother in institution	—
4	69	12 m	Congenital	None	None	Greatly retracted; no light spot	No	No	Younger sister deaf mute	—
5	74	8 m	Congenital	None	None	Normal	No	No	None	—
6	78	15 m	Congenital	None	None	Normal	No	No	Sister deaf and dumb	—
7	79	16 m	Congenital	None	None	Normal	No	No	None	—
8	80	13 m	Congenital	None	None	Normal	No	No	None	—
9	81	15 m	Congenital	None	None	Normal	No	No	None	—
10	84	10 m	Congenital	None	None	Normal	No	No	None	Teeth notched
11	86	14 m	Congenital	None	None	Normal	No	No	First cousins	Teeth irregular and separate
12	90	7 m	Congenital	None	None	Dull; no light reflex	No	No	None	Teeth slightly notched

13	98	14 m	Congenital	None	None	None	Slightly dull	No	No	Sister deaf and dumb; second cousins	—
14	101	14 m Jew	Congenital	None	None	None	Normal	No	No	Has a sister in institution who is deaf and dumb	—
15	103	18 m Jew	Congenital	None	None	None	Normal	No	No	Brother deaf and dumb; second cousins	—
16	105	16 m	Congenital	None	None	None	Normal	No	No	Brother and cousin deaf and dumb	—
17	106	14 m	Congenital	None, except tuning-fork in front of ears	?	None	Retracted	No	No	Has a sister and nephew deaf and dumb; his mother had one sister insane, and another deaf and dumb	—
18	107	15 m	Congenital	None	None	None	Dull	No	No	Has two maternal aunts and one uncle deaf	—
19	110	17 m	Congenital	Hears tuning-fork through the air	?	None	Normal	No	No	Brother and younger sister and daughter ceased; younger sister deaf and dumb	—
20	113	14 m	Congenital	Hears medium tone of voice, but lacks appreciation	?	None	Both opaque; chalky deposits in right	No	No	None	—
21	116	17 m	Congenital	Hears loud voice—highest tone	?	?	Normal	No	No	None	—

No.	Page Record	Age, Sex, and Race	Cause stated by parents or guardians, and age at which they say deafness appeared.	Amount of Hearing.	Air Conduction.	Bone Conduction.	Condition of Membrana Tympani.	Is the Cause Curable?	Was the Present Condition Prevalent?	Family History and Consanguinity.	Remarks.
22	119	16 m	Congenital	Can hear ordinary voice, but cannot understand	?	?	Normal	No	No	Younger brother deaf and dumb	Should be instructed in articulation
23	124	16 m	Congenital	None	None	None	Normal	No	No	Father partially deaf; the boy resembles his father	—
24	125	12 m	Congenital	None	None	None	Normal	No	No	None	—
25	136	11 m	Congenital	Hears only loudest sounds	?	None	Normal	No	No	Has a sister in the institution, congenitally deaf	—
26	142	11 m	Congenital	None	None	None	Retracted	No	No	None	—
27	29	15 f	Congenital	Hears tick of 60-ft. clock in contact with auricle and loudest voice	?	?	Normal	No	No	Has a sister in the institution, who is a deaf mute	—
28	31	12 f	Congenital	Hears tick of 60-ft. clock in contact with auricle and medium loud voice in 3-ft., without watching the face; ordinary conversation in usual speaking distance is not heard	Yes	Yes	Slightly retracted	Amenable to considerable improvement by proper treatment	None	None	—

29	36	19 f	Congenital	None	None	None	Normal	No	No	Seven children in the family; five are deaf and dumb; two can speak	—
30	37	16 f	Congenital	None	None	None	Normal	No	No	Paternal Grandfather deaf and dumb	—
31	46	12 f	Congenital	None	None	None	Retracted	No	No	Had a brother, congenital deaf mute	—
32	51	14 f	Congenital	None	None	None	Normal	No	No	Has an old brother, congenital deaf mute; first cousins	—
33	50	8 f	Congenital	None	None	None	Normal	No	No	None	—
34	52	9 f	Congenital	None	None	None	Normal	No	No	None	Very large teeth, with tendency to notching
35	53	12 f	Congenital	None	None	None	Normal	No	No	None	—
36	55	8 f	Congenital	Nearly total deafness; perceives vibrations of tuning-fork with right ear; cannot hear loud voice	Yes	Yes	Normal	No	No	Is weak-minded, and has another sister who is weak-minded	Hutchinson's teeth
37	56	11 f	Congenital	None	None	None	Normal	No	No	None	—
38	57	9 f	Congenital	None	None	None	Normal	No	No	Second cousins	Teeth slightly notched

No.	Page in Record.	Age, Sex, or Race.	Cause stated by parents or guardians, and age at which they say deafness appeared.	Amount of Hearing.	Air Conduction.	Bone Conduction.	Condition of Membrana Tympani.	Is the Case Curable?	Was the Present Condition Prevailing?	Family History and Consanguinity.	Remarks.
39	129	10 f Jew	Congenital	None	None	None	Dull	No	No	Brother deaf and dumb in institution	Hutchinson's teeth
40	139	16 f	Congenital	Hears loudest sounds	?	?	Normal	No	No	Has a deaf sister, a congenital deaf mute brother and a deaf mute cousin; second cousins very much alike in disposition	—
41	155	6 f	Congenital	None	None	None	Normal	No	No	Cousins	—
42	165	7 f	Congenital	None	None	None	Normal	No	No	None	—
43	40	16 f	Congenital	None	None	None	Normal	No	No	Has a younger brother who is a deaf mute	—
44	33	6½ f	Congenital	None	None	None	Normal	No	No	Has a deaf and dumb brother in the asylum; five other children entirely healthy	—
45	62	13 m	Scarlatina; 2½ years	None	In right ear	None	Cicatrix in right drum-head; left irregular light spot	No	?	—	—

46	63	17 m	Scarlatina; 7 years	Cannot hear loudest voice; deaf, but speaks	In right ear	In right ear	Large perforation on either side; active purulent otitis media	No	?	Parents, brother and sister partially deaf	Semi-mute; should be treated for otorrhea
47	71	20 m	Scarlatina; 7½ years	None	None	None	Right drum-head sunken and cicatrized; left, entire loss of drum-head and ossicles	No	?	None	—
48	87	17 m Jew	Scarlatina; infancy	None	None	None	Chronic otorrhea, with right and left perforations	No	?	None	Hutchinson's teeth; should be treated for otorrhea
49	96	11 m	Scarlatina; 3 years	None	None	None	Right multiple cicatrices and chalky incrustations of left drum-head	No	?	None	—
50	117	13 m	Scarlatina; not given	None	None	None	Cicatrices	No	?	None	Teeth slightly irregular
51	123	15 m	Scarlatina; 3½ years	Hears loudest noise with right ear; left ear hears nothing	?	None	Right ear, large perforation; left ear, old cicatrix	No	?	None	—
52	162	13 m	Scarlatina; 4½ years	None	None	None	Scales on membrana tympani	No	?	None	Polypus was removed from external ear duct
53	65	12 m	Scarlatina; not given	Left ear hears loudest voice; right ear nil	In right and left ear	In right ear	Right cicatrix, from perforation; left is retracted	No	?	None	—

No.	Age, Sex, and Race.	Cause stated by parents or guardians, and age at which they say deafness appeared.	Amount of Hearing.	Air Conduction.	Bone Conduction.	Condition of Membrana Tympani.	Is the Case Curable?	Was the Present Condition Treatable?	Family History and Consanguinity.	Remarks.
54	54 15 f	Scarlatina; 3 years	None	None	None	No remarks in record	No	?	None	—
55	128 14 f	Scarlatina; 6 years	None	None	None	Right, old scar; left, large perforation	No	?	Third cousins	Hutchinson's teeth
56	156 11 f	Scarlatina; 4 years	None	None	None	Normal	No	?	None	—
57	131 16 f	Scarlatina; 3 years	None	None	None	Normal	No	?	Has a paternal aunt who is deaf and dumb	Teeth slightly notched; forehead slightly prominent
58	137 16 f	Scarlatina (not given)	Left ear very loud voice; right ear nil	In left ear	In left ear	Right, large perforation; left is dull	No	?	None	—
59	109 14 m	Cause unknown; 2 years	None	None	None	Slightly dull	No	No	None	—
60	146 18 m	Cause unknown; 1½ years	None	None	None	Normal	No	No	None	—
61	170 9 m	Cause unknown; 2 years	Hears loudest shouting	?	?	Retracted	No	No	None	—
62	32 15 m	Cause unknown; not given	Hears ordinary loud voice within a few feet, and repeats what he hears	?	?	Normal	No	No	Has a brother, 11 years old, in the same condition	Proper pains have not been taken with his education

63	89	11 m	Cause unknown; None not given	None	None	Normal	No	No	None	—
64	115	13 m	Cause unknown; Hears ordinary voice in two feet distance; repeats and answers correctly	?	?	Normal	No	Yes	None	—
65	172	9 f	Cause unknown; Hears her name when called loudly	?	?	Normal	No	No	Grand - mother's cousin became dumb from fever when 7 years old	—
66	127	11 f	Cause unknown; None 3½ years	None	None	Normal	No	No	None	Hutchinson's teeth and mark of face
67	49	11 f	Cause unknown; None not given	None	None	Normal	No	No	None	Hutchinson's teeth
68	91	12 m	Cause unknown; None probably congenital	None	None	Normal	No	No	None	—
69	121	7 m	Cause unknown; He seems to perceive very loud shouting close to the ear	?	?	Normal	No	No	Has a brother in the asylum, who is congenitally deaf and dumb	—
70	88	17 m	Cause unknown; None probably congenital	None	None	Normal	No	No	None	—
71	108	17 m	Cause unknown; None probably congenital	None	None	Normal	No	No	None	Irregular teeth

No.	Page Record	Age, Sex, and Race	Cause stated by parents or guardians, and age at which they say deafness appeared	Amount of Hearing.	Air Conduction.	Bone Conduction.	Conditions of Membrana Tympani.	Is the Case Curable?	Was the Present Condition Prevailing?	Family History and Consanguinity.	Remarks
72	76	16 m	Cause unknown; probably congenital	None	None	None	Normal	No	No	Maternal grandfather and uncle insane	—
73	136	18 f	Cause unknown; probably congenital	None	None	None	Normal	No	No	None	—
74	39	10 f	Cause unknown; probably congenital	Hears low voice in five feet distance; speech is slow, but distinct; articulation somewhat defective	Yes	Yes	Greatly retracted	No	No	None	Upper incisor teeth slightly notched
75	168	9 m	Cause unknown; probably congenital	None	None	None	Normal	No	No	None	—
76	70	10 m	Spinal meningitis; 1 year	None	None	None	Normal	No	No	None	Hutchinson's teeth
77	75	12 m	Spinal meningitis; 6 months	None	None	None	Retracted	No	No	None	—
78	77	12 m	Spinal meningitis; 1½ years	None	None	None	Normal	No	No	None	—
79	95	9 m	Spinal meningitis; 2 years	None	None	None	Right, dull; left, normal	No	No	None	Strumous individual
80	99	14 m	Spinal meningitis; 4 years	None	None	None	Normal	No	No	None	—

81	102	16 m	Spinal meningitis; None	None	None	Normal	No	No	None	—
82	103	13 m	Spinal meningitis; None	None	None	Normal	No	No	None	—
83	132	12 f	Spinal meningitis; None	None	None	Normal	No	No	None	—
84	160	18 f	Spinal meningitis; None	None	None	Normal	No	No	None	—
85	38	14 f	Spinal meningitis; None	None	None	Normal	No	No	None	—
86	149	14 m	Cerebro-spinal meningitis; 2½ yrs	None	None	Normal	No	No	None	—
87	145	12 f	Cerebro-spinal meningitis; 6 mos	None	None	Normal	No	No	None	—
88	43	12 f	Cerebro-spinal meningitis; 1 yr	None	None	Normal	No	No	None	—
89	41	16 f	Cerebro-spinal meningitis; 5 yrs	None	None	Normal	No	No	None	—
90	60	16 m	Brain fever; 1 year	With Left ear hears sounds of loudest voice; Right ear entirely deaf	In left ear	None	Greatly retracted; no light spot	No	None	—
91	92	9 m	Brain fever; 2½ yrs	None	None	Normal	No	No	None	—
92	93	8 m	Brain fever; 7 yrs	Is deaf, but not mute	None	Normal	No	No	None	Notched teeth, fine face, healthy boy
93	100	14 m	Brain fever; 2 yrs	None	None	Retracted	No	No	None	—
94	140	19 m	Brain fever; 4½ yrs	None	None	Normal	No	No	None	—
95	44	16 f	Brain fever; 1½ yrs	None	None	Normal	No	No	None	—
96	45	13 f	Brain fever; 3 yrs	None	None	Normal	No	No	None	—
97	135	14 f	Brain fever; 3 yrs	None	None	Normal	No	No	None	—

No.	Page in Record.	Age, Sex, and Race.	Cause stated by parents or guardians, and age at which they say deafness appeared.	Amount of Hearing.	Air Conduction.	Bone Conduction.	Condition of Membrana Tympani.	Is the Case Curable?	Was the Present Condition Prevailing?	Family History and Consanguinity.	Remarks.
98	161	11 f	Brain fever; infancy	None	None	None	Normal	No	No	None	—
99	97	10 f	Brain fever; infancy	None	None	None	Normal	No	No	Has a brother, 14 years old, who is deaf but not mute	—
100	94	7 m Jew	Typhoid fever; 4 yrs	None	None	None	Normal	No	No	None	—
101	48	18 f	Typhoid fever; infancy	None	None	None	Normal	No	No	Has older sister deaf mute	Teeth are irregular
102	47	15 f	Typhoid fever; 2 yrs	None	None	None	Normal	No	No	Has younger sister who is a deaf mute; was affected at six months old	Teeth irregular
103	2	8 f	Typhoid fever; not given	None	None	None	Normal	No	No	None	—
104	58	25 m	Measles; 1 year	Right ear partially deaf; Left ear hears sound of loudest voice	?	?	Left drum, small perforation and purulent discharge; right drum-head old scar	No	?	None	The examination of bone conduction in this very intelligent patient, reveals the fact that the sensation of the tuning-fork is felt a purely mechanical vibration, alike on hand and head.
105	73	9 m	Measles; 2 years	None	None	None	Right drum normal; left slightly retracted	No	?	None	—
106	141	20 f	Measles; 1½ years	None	None	None	Normal	No	?	None	—
107	144	21 f	Measles; 6 years	None	None	None	Right and left total perforation	No	?	None	—

108	34	7 m	Fall on head; 1½ yrs	None	None	None	Normal	No	No	None	—
109	35	9 m	Fall on head; in-fancy	None	None	None	Slightly dull	No	No	None	—
110	38	10 f	Fall on head; year	None	None	None	Retracted	No	No	Second cousins	Prominent frontal eminences
111	68	10 m	Fever; 2 years	None	None	None	Right and left dull and retracted	No	No	None	—
112	42	17 f	Fever; 5 years	None	None	None	Normal	No	No	None	—
113	1	16 m	Whooping-cough	None	None	None	Right normal; left is perforated	No	No	None	Whooping-cough was followed by bleeding from the nose, mouth and ears; possibly there was hemorrhage in the labyrinth
114	30	17 f	Injuries to head	None	None	None	Normal	No	No	None	—
115	59	7 m	Mumps; 10 years	No hearing, but speaks	?	?	Retracted and dull	No	No	None	—
116	61	15 m	Heredit; 6 years	Right ear hears sounds of loudest voice; left ear is entirely deaf	?	?	Normal	No	No	Grandfather deaf and dumb at 6 years from scarlatina, he had two daughters who became deaf and dumb at 6 years of age; one of them was this boy's mother; he gradually became deaf and dumb in the same manner	—
117	82	15 m	Hydrocephalus; 1½ years	None	None	None	Normal	No	No	None	—
118	212	15 m	Malaria; 3 years	None	None	None	Normal	No	No	None	—

No.	Page Record.	Age, Sex, and Race.	Cause stated by parents or guardians, and age at which they say deafness appeared.	Amount of Hearing.	Air Conduction.	Bone Conduction.	Condition of Membrana Tympani.	Is the Case Curable?	Was the Present Condition Prevailing?	Family History and Consanguinity.	Remarks.
119	128	17 f	Diphtheria; 2 years	She seems to have vague perception of loud sounds	?	None	Normal	No	No	Has a deaf sister in the institution	Teeth irregular but not characteristic
120	159	13 f	Intermittent fever in infancy	Quantitative perception of sound, but no speech	?	O	Normal	No	No	Mother died from consumption; one sister and two brothers are well	—
121	169	17 m	Fits; infancy	None	None	None	Retracted and opaque	No	No	Uncle deaf and dumb from scarlatina at six years old; one brother and sister, well	—
122	83	10 m	Sickness; infancy	None	None	None	Normal	No	No	None	—

36 CASES OF DOUBLE BLINDNESS

EXAMINED AT THE

INSTITUTION FOR THE DEAF AND DUMB, AND THE BLIND

AT

BERKELEY, CAL.

1884

BY A. BARKAN, M. D.

No.	Page in Record.	Age and Sex.	Cause stated by parents or guardians, and age at which they say blindness appeared.	PARTS OF THE EYE AFFECTED.	VISION	Was Blindness Preventable?	IS THE CASE CURABLE?	FAMILY HISTORY AND CONSANGUINITY.	REMARKS.
1	20	15 m	Congenital	Right eye: Posterior staphyloma and nystagmus. Left eye: Posterior staphyloma and nystagmus.	Right eye: Myopia— $1\frac{1}{3}$ Left eye: Myopia— $1\frac{1}{3}$	No	No	None	Does this patient rightly belong to the Institution?
2	171	7 m	Congenital	Right eye: Cataract. Left eye: Cataract.	Sees motions of hand	No	Greatly improvable	None	This case was admitted after the abolishment of expert commission who refused to admit him.
3	152	19 m	Congenital	Right eye: Cataract. Left eye: Cataract.	Counts fingers at two feet	No	Improvable	Other members of the same family have good eyesight	This case was recommended to Trustees for an operation.
4	153	20 m	Congenital	Right eye: Irido-choroiditis. Left eye: Irido-choroiditis and cataract.	None	No	No	None	—
5	24	10 m	Congenital	Right eye: Anophthalmus. Left eye: Pigmentary Retinitis and cornea totally opaque.	Right eye: none Left eye: quantitative perception of light	No	No	None	—
6	12	9 f	Congenital	Right eye: White atrophy of optic nerve. Left eye: White atrophy of optic nerve.	None	No	No	Has a sister who is blind and paralyzed	Hereditary Syphilis
7	8	7 f	Congenital	Right eye: Old scars in cornea.	Quantitative perception of light	No	No	None	Defective record
8	6	20 f	Congenital	Right eye: Atrophy after an operation. Left eye: Enlarged.	None	No	No	Brother deaf and dumb and sister blind	—

9	21	18	Ophthalmia m	Ne-Right eye: Total atrophy. Left eye: Anophthalmus after enucleation.	None	Yes	No	None	
10	163	9	Ophthalmia m	Ne-Right eye: Staphyloma of cornea and sclerotic. Left eye: Adherent anterior leucoma.	Right eye: none Left eye: sees fin- gers at six inches	Yes	No	None	
11	151	11	Ophthalmia m	Ne-Right eye: Corneal leucoma and capsular cataract. Left eye: Atrophy of ball.	Right eye: reads ordinary print Left eye: no vision	Yes	Right eye: im- provable Left eye: No	None	Notched teeth
12	25	3	Ophthalmia m	Ne-Right eye: Anophthalmus from removal of ball. Left eye: Total corneal leuco- ma.	None	Yes	No	Has a brother who is deaf and dumb, and a sister who is blind	
13	5	10	Ophthalmia f	Ne-Right eye: Staphyloma. Left eye: Staphyloma, both bullis removed.	None	Yes	No	None	
14	10	10	Ophthalmia f	Ne-Right eye: Staphyloma and corneal opacity. Left eye: Atrophy and corneal opacity.	None	Yes	No	None	
15	11	15	Ophthalmia f	Ne-Right eye: Complete corneal leucoma. Left eye: Complete corneal leucoma.	None	Yes	No	None	

No.	Age and sex.	Cause stated by parents or guardians, and age at which they say Blindness appeared.	PARTS OF THE EYE AFFECTED.	VISION.	Was Blindness Prevalent?	IS THE CASE CURABLE?	FAMILY HISTORY AND CONSANGUINITY.	REMARKS.
16 158	9 f	Ophthalmia neonatorum	Right eye: Staphyloma. Left eye: Atrophy.	None	Yes	No	None	—
17 159	9 f	Ophthalmia neonatorum	Right eye: Corneal and sclerotic Staphyloma. Left eye: Entire corneal Leucoma.	Quantitative perception of light	Yes	No	None	After unsuccessful, and probably injudicious treatment on part of the Physician the child was taken to Specialist, when two weeks old.
18 18	14 m	Cause unknown: at 4 years	Right eye: White atrophy and Nystagmus. Left eye: White atrophy and nystagmus.	None	No	No	None	Protruding forehead and prominent frontal sinuses
19 27	10 m	Cause unknown: at 6 years	Right eye: Choroiditis and secondary atrophy of optic nerve. Left eye: Choroiditis and secondary atrophy of optic nerve.	None	No	No	Father and sister are insane	—
20 13	16 f	Cause unknown: at 2 years	Right eye: Chronic choroiditis and chalky cataract. Left eye: Atrophy and chalky cataract.	None	No	No	None	Incomplete record
21 167.	13 f	Cause unknown: "not given"	Right eye: White atrophy of optic nerve. Left eye: White atrophy of optic nerve.	None	No	No	None	—

22	17	Brain Fever: at m 6 years	Right eye: Complete atrophy of optic nerve. Left eye: Complete atrophy of optic nerve.	None	No	No	None	—
23	16	Brain Fever: at m 5 years	Right eye: White atrophy of optic nerve. Left eye: White atrophy of optic nerve.	None	No	No	None	—
24	1	Brain Fever: at f 13 years	Right eye: Complete atrophy of optic nerve. Left eye: Complete atrophy of optic nerve.	None	No	No	None	—
25	22	Brain Fever: at f 6 years	Right eye: optic Neuritis followed by Atrophy. Left eye: optic Neuritis followed by Atrophy.	None	No	No	None	—
26	122	Granular Con- junctivitis: at m 6 years	Right eye: Corneal opacity and cicatricial contraction of lid. Left eye: Corneal opacity and cicatricial contraction of lid.	Right eye = $\frac{1\frac{1}{2}}{20}$ Left eye = $\frac{4}{20}$ Reads largest print with difficulty	Yes	No	Third cousins	Hutchinson's teeth
27	15	Granular Con- junctivitis: at f 11 years	Right eye: Atrophy of bulb. Left eye: Leucoma, anterior synechia and capsular cataract.	Right eye: Reads middle small print at four inches Left eye: Reads Jaeger, No. 5	Yes	Greatly improvable by operation	None	—
28	23	Granular Con- junctivitis: at f 10 years	Right eye: Total leucoma of cornea and granulated lid. Left eye: Total leucoma and granulated lid.	None	Yes	No	None	—

No.	Age in Record.	Cause stated by parents or guardians, and age at which they say blindness appeared.	Parts of Eye Affected.	Vision.	Was Blindness Pre- tensible?	Is the Case Curable?	Family History and Consanguinity.	Remarks.
29	28 m	Megalophthalmus	Right eye: Staphylomatous and opaque. Left eye: Staphylomatous and opaque.	Right eye: None Left eye: quantitative perception of light	No	No	None	Hutchinson's teeth and syphilitic forehead
30	164 m	Spinal Meningitis: at 6 years	Right eye: Atrophy of optic nerve. Left eye: Atrophy of optic nerve.	None	No	No	None	—
31	7 f	Malarial Fever: at 7 years	Right eye: Abscess of bulb. Left eye: Atrophy of bulb.	None	No	No	None	—
32	—	Small Pox: at 2 years	Right eye: Central leucoma and diffuse opacity. Left eye: Central leucoma and diffuse opacity.	Right eye: Counts fingers at four ft. Left eye: at five ft.	?	Improvable	None	Iridectomy recommended
33	9 f	Rheumatism: "Not given"	Right eye: Purulent choroiditis atrophy of bulb and secondary chalky cataract. Left eye: Purulent choroiditis atrophy of bulb and secondary chalky cataract.	None	No	No	None	—
34	14 f	Syphilis: "In-fancy"	Right eye: Cataract, irregular pupil and nystagmus Left eye: Cataract, irregular pupil and nystagmus	Right eye: Quantitative perception of light Left eye: Reads small print at three inches	No	Right eye: Improvable	None	Hutchinson's teeth and syphilitic forehead
35	19 m	Injury to eye: at 8 years	Right eye: Atrophy of ball. Left eye: Anophthalmus from removal.	None	No	No	None	—
36	26 m	Poison Oak: at 8 years	Right eye: Atrophy of cornea after perforation, and slight atrophy of bulb. Left eye: Atrophy of cornea after perforation, and slight atrophy of bulb.	None	No	No	None	—

